The Morning Email: TERM TEDS & Dirty TEDS

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Correlations for the US Cash Treasuries are done on a YIELD basis. Therefore, you'll see negative values. The reason for this is due to the new issues. Every new issue takes too long to 'catch up' because the correlation formula looks back 10days.

Want something added? Let me know: jgoulding@ghco.com

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Quotes

	F.I. Futures and Cash			
	Last Decimal	Last 32	Last Yield*	MDuration
ZT	103.8906	103.285	3.719	1.90
ZF	108.0313	108.010	3.940	3.86
ZN	110.8750	110.280	4.145	5.79
2y	99.772	99.2470	3.741	1.81
5y	99.413	99.1320	4.008	4.49
10y	103.156	103.0500	4.346	7.72

	Eurodollars (ED)					
	Last Price	Last Imp Yield	Days til Expr.	Fraction of year	Month	
EDAZ07	95.255	4.745	45	0.123	DEC	White Pack
EDAH08	95.600	4.400	136	0.372	MAR	
EDAM08	95.765	4.235	227	0.621	JUN	
EDAU08	95.850	4.150	318	0.871	SEP	
EDAZ08	95.855	4.145	409	1.120	DEC	Red Pack
EDAH09	95.795	4.205	500	1.369	MAR	
EDAM09	95.695	4.305	591	1.619	JUN	
EDAU09	95.595	4.405	682	1.868	SEP	
EDAZ09	95.500	4.500	773	2.117	DEC	Green Pack
EDAH10	95.420	4.580	864	2.366	MAR	
EDAM10	95.335	4.665	955	2.616	JUN	
EDAU10	95.235	4.765	1046	2.865	SEP	
EDAZ10	95.205	4.795	1137	3.114	DEC	Blue Pack
EDAH11	95.125	4.875	1228	3.364	MAR	
EDAM11	95.080	4.920	1319	3.613	JUN	
EDAU11	94.995	5.005	1417	3.882	SEP	
EDAZ11	94.940	5.060	1508	4.131	DEC	Gold Pack
EDAH12	94.900	5.100	1599	4.380	MAR	
EDAM12	94.850	5.150	1690	4.630	JUN	
EDAU12	94.805	5.195	1781	4.879	SEP	

	Last Yield	Net Yield	Last Price	
Q.ED.White	4.493	1.875	9561.750	Pack Prices
Q.ED.Red	4.371	2.125	9573.500	
Q.ED.Green	4.747	1.250	9537.250	
Q.ED.Blue		0.000	9508.875	
Q.ED.Gold	5.265	0.000	9487.375	

Red pack is a 2yr proxy
Gold pack is a 10yr proxy
Red /Gold is a 2/10 proxy
Blue pack is a 5yr proxy
Blue/Gold is a 5/10 proxy

Notes
Futures use CTD for Last Yield
Mduration = Modified Macaulay Duration
#VALUE! = no quote being provided by exchange.

Overview of Hedging

How many ways can you hedge the TED? Let me count…there's lots and lots, like:

1 Regression
2 Engineered
3 Strip with and without Stubs
4 Convexity Bias
5 Weighted
6 Unweighted
and more…

Most of us are interested in the *unweighted hedge* which is simply a curve trade hedge.
There are so many ways to hedge the TED trade that I can't possibly list them all.

If you email me and ask for a specific hedge, I'll get it to you.
jgoulding@ghco.com

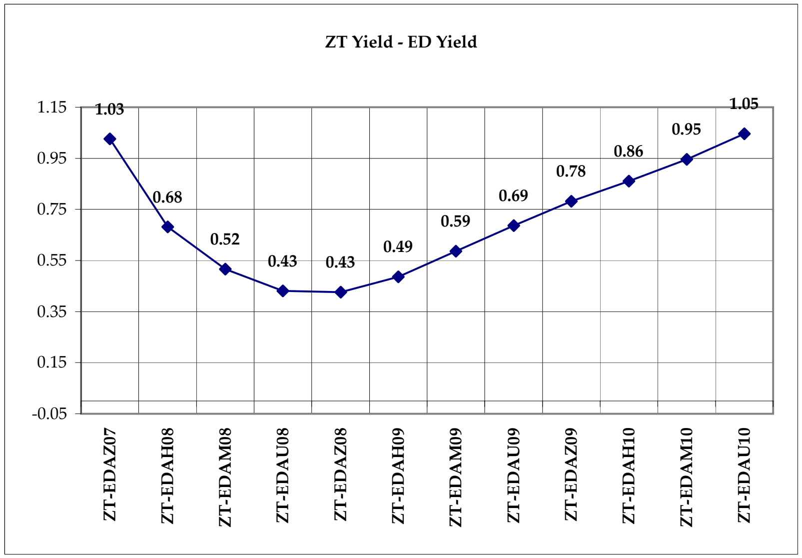
Eurodollar Color Codes for Individual Year Strips:

Color	Year	Contracts
White	One	1 – 4
Red	Two	5 – 8
Green	Three	9 – 12
Blue	Four	13 – 16
Gold	Five	17 – 20
Purple	Six	21 – 24
Orange	Seven	25 – 28
Pink	Eight	29 – 32
Silver	Nine	33 – 36
Copper	Ten	37 – 40

Dirty TED: ZT vs Eurodollar Contracts

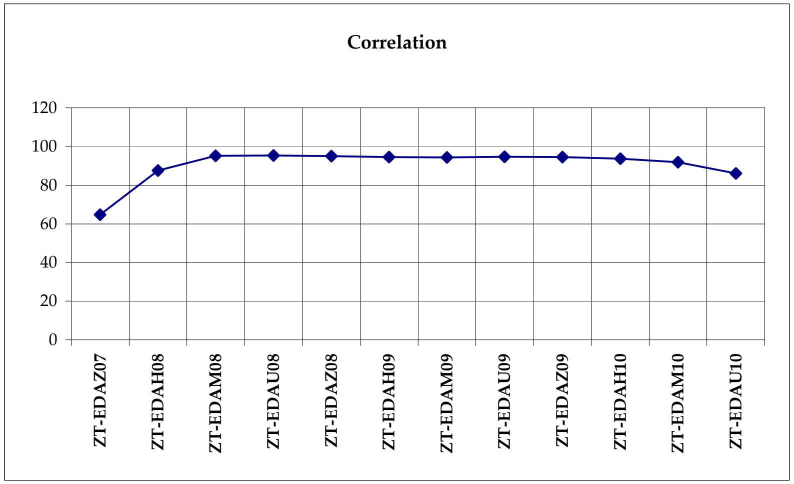
	ZT			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	8.636	1.03	ZT-EDAZ07	64.714
EDAH08	8.291	0.68	ZT-EDAH08	87.578
EDAM08	8.126	0.52	ZT-EDAM08	95.150
EDAU08	8.041	0.43	ZT-EDAU08	95.364
EDAZ08	8.036	0.43	ZT-EDAZ08	94.987
EDAH09	8.096	0.49	ZT-EDAH09	94.564
EDAM09	8.196	0.59	ZT-EDAM09	94.368
EDAU09	8.296	0.69	ZT-EDAU09	94.649
EDAZ09	8.391	0.78	ZT-EDAZ09	94.586
EDAH10	8.471	0.86	ZT-EDAH10	93.684
EDAM10	8.556	0.95	ZT-EDAM10	91.804
EDAU10	8.656	1.05	ZT-EDAU10	86.084

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZT Duration	Spread Duration	
EDAZ07	0.123	1.90	1.78	ZT-EDAZ07
EDAH08	0.372	1.90	1.53	ZT-EDAH08
EDAM08	0.621	1.90	1.28	ZT-EDAM08
EDAU08	0.871	1.90	1.03	ZT-EDAU08
EDAZ08	1.120	1.90	0.78	ZT-EDAZ08
EDAH09	1.369	1.90	0.53	ZT-EDAH09
EDAM09	1.619	1.90	0.28	ZT-EDAM09
EDAU09	1.868	1.90	0.03	ZT-EDAU09
EDAZ09	2.117	1.90	(0.22)	ZT-EDAZ09
EDAH10	2.366	1.90	(0.47)	ZT-EDAH10
EDAM10	2.616	1.90	(0.72)	ZT-EDAM10
EDAU10	2.865	1.90	(0.97)	ZT-EDAU10

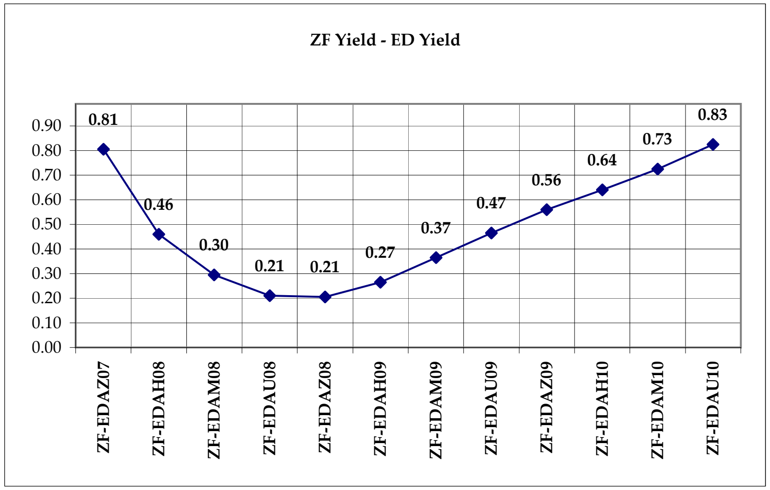
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZF vs Eurodollar Contracts

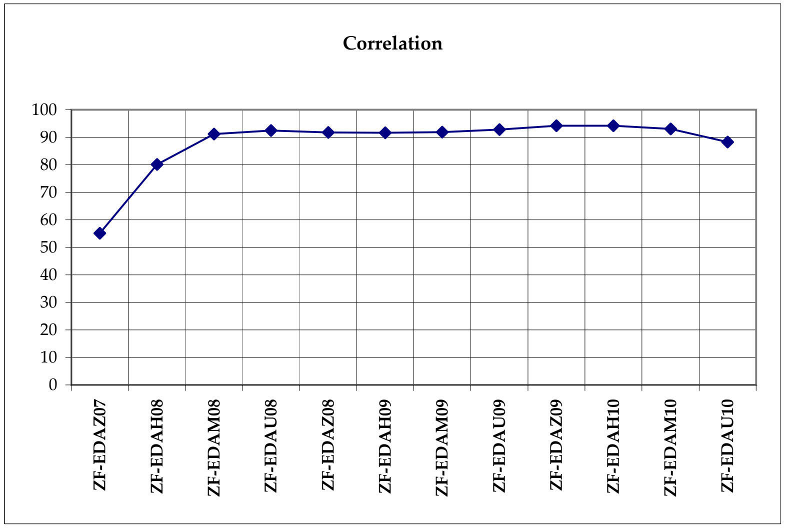
	ZF			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	12.78	0.81	ZF-EDAZ07	55.097
EDAH08	12.43	0.46	ZF-EDAH08	80.088
EDAM08	12.27	0.30	ZF-EDAM08	91.116
EDAU08	12.18	0.21	ZF-EDAU08	92.472
EDAZ08	12.18	0.21	ZF-EDAZ08	91.782
EDAH09	12.24	0.27	ZF-EDAH09	91.629
EDAM09	12.34	0.37	ZF-EDAM09	91.851
EDAU09	12.44	0.47	ZF-EDAU09	92.797
EDAZ09	12.53	0.56	ZF-EDAZ09	94.130
EDAH10	12.61	0.64	ZF-EDAH10	94.202
EDAM10	12.70	0.73	ZF-EDAM10	93.044
EDAU10	12.80	0.83	ZF-EDAU10	88.210

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZF Duration	Spread Duration	
EDAZ07	0.123	3.86	3.74	ZF-EDAZ07
EDAH08	0.372	3.86	3.49	ZF-EDAH08
EDAM08	0.621	3.86	3.24	ZF-EDAM08
EDAU08	0.871	3.86	2.99	ZF-EDAU08
EDAZ08	1.120	3.86	2.74	ZF-EDAZ08
EDAH09	1.369	3.86	2.49	ZF-EDAH09
EDAM09	1.619	3.86	2.24	ZF-EDAM09
EDAU09	1.868	3.86	2.00	ZF-EDAU09
EDAZ09	2.117	3.86	1.75	ZF-EDAZ09
EDAH10	2.366	3.86	1.50	ZF-EDAH10
EDAM10	2.616	3.86	1.25	ZF-EDAM10
EDAU10	2.865	3.86	1.00	ZF-EDAU10

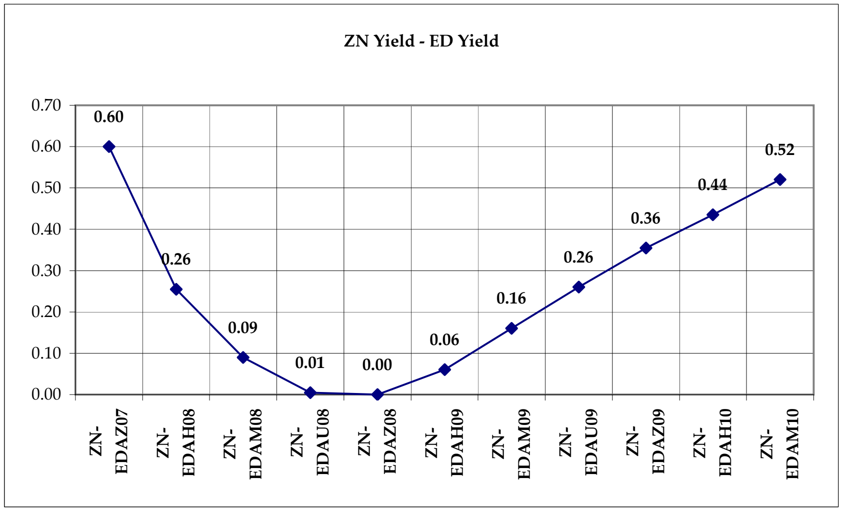
The farther away from 0 the spread duration is the riskier the trade.



Dirty TED: ZN vs Eurodollar Contracts

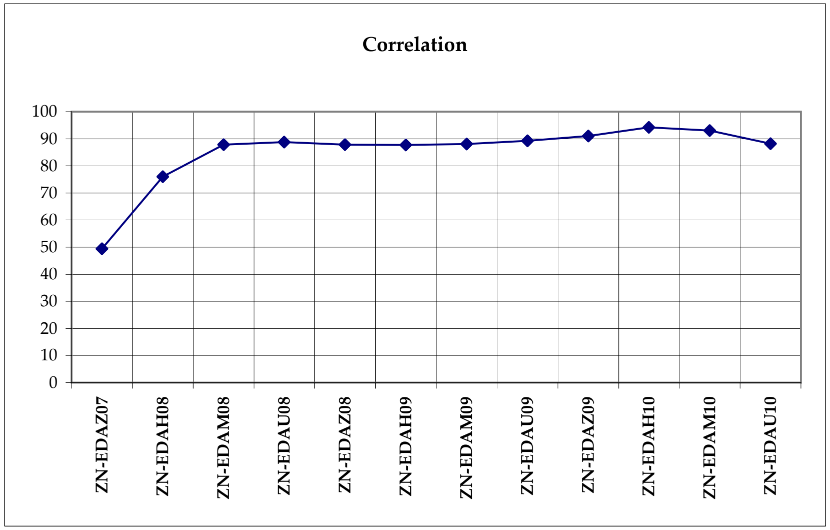
	ZN			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	15.62	0.60	ZN-EDAZ07	49.46
EDAH08	15.28	0.26	ZN-EDAH08	76.02
EDAM08	15.11	0.09	ZN-EDAM08	87.78
EDAU08	15.03	0.01	ZN-EDAU08	88.75
EDAZ08	15.02	0.00	ZN-EDAZ08	87.77
EDAH09	15.08	0.06	ZN-EDAH09	87.74
EDAM09	15.18	0.16	ZN-EDAM09	88.09
EDAU09	15.28	0.26	ZN-EDAU09	89.21
EDAZ09	15.38	0.36	ZN-EDAZ09	91.04
EDAH10	15.46	0.44	ZN-EDAH10	94.20
EDAM10	15.54	0.52	ZN-EDAM10	93.04
EDAU10	15.64	0.62	ZN-EDAU10	88.21

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**



	GE Duration as Fraction of year	ZN Duration	Spread Duration	
EDAZ07	0.123	5.79	5.67	ZN-EDAZ07
EDAH08	0.372	5.79	5.42	ZN-EDAH08
EDAM08	0.621	5.79	5.17	ZN-EDAM08
EDAU08	0.871	5.79	4.92	ZN-EDAU08
EDAZ08	1.120	5.79	4.67	ZN-EDAZ08
EDAH09	1.369	5.79	4.42	ZN-EDAH09
EDAM09	1.619	5.79	4.17	ZN-EDAM09
EDAU09	1.868	5.79	3.92	ZN-EDAU09
EDAZ09	2.117	5.79	3.67	ZN-EDAZ09
EDAH10	2.366	5.79	3.42	ZN-EDAH10
EDAM10	2.616	5.79	3.17	ZN-EDAM10
EDAU10	2.865	5.79	2.92	ZN-EDAU10

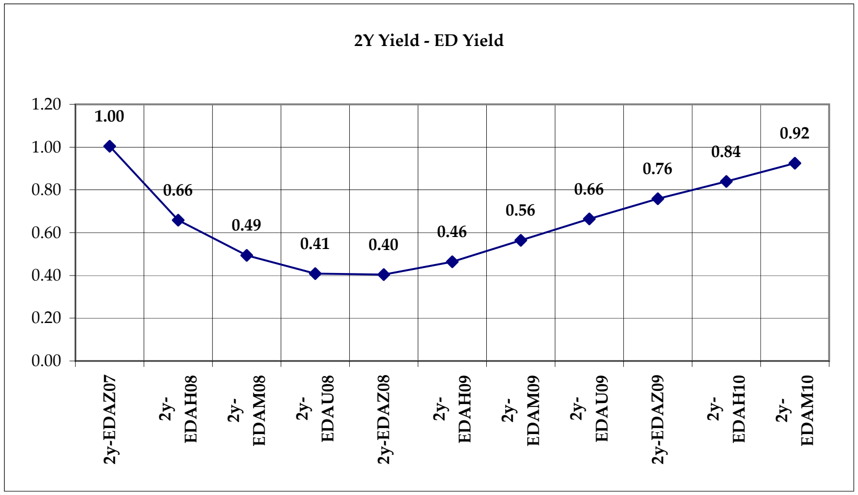
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 2y vs Eurodollar Contracts

	2y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.52	1.00	2y-EDAZ07	-40.828
EDAH08	4.17	0.66	2y-EDAH08	-68.135
EDAM08	4.01	0.49	2y-EDAM08	-78.926
EDAU08	3.92	0.41	2y-EDAU08	-80.054
EDAZ08	3.92	0.40	2y-EDAZ08	-78.926
EDAH09	3.98	0.46	2y-EDAH09	-80.241
EDAM09	4.08	0.56	2y-EDAM09	-80.605
EDAU09	4.18	0.66	2y-EDAU09	-81.181
EDAZ09	4.27	0.76	2y-EDAZ09	-80.505
EDAH10	4.35	0.84	2y-EDAH10	-79.467
EDAM10	4.44	0.92	2y-EDAM10	-77.725
EDAU10	4.54	1.02	2y-EDAU10	-71.966

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days.**
These are measuring YIELD correlations.



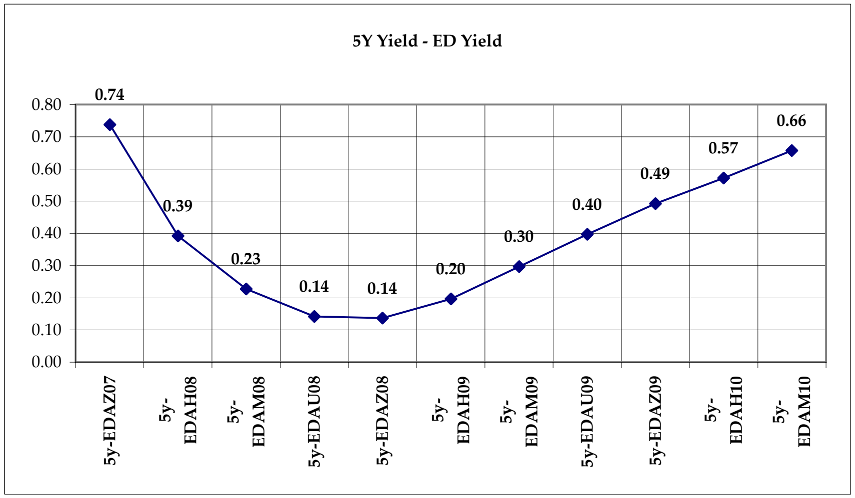
	GE Duration as Fraction of year	2Y Duration	Spread Duration	
EDAZ07	0.123	1.81	1.69	2y-EDAZ07
EDAH08	0.372	1.81	1.44	2y-EDAH08
EDAM08	0.621	1.81	1.19	2y-EDAM08
EDAU08	0.871	1.81	0.94	2y-EDAU08
EDAZ08	1.120	1.81	0.69	2y-EDAZ08
EDAH09	1.369	1.81	0.44	2y-EDAH09
EDAM09	1.619	1.81	0.19	2y-EDAM09
EDAU09	1.868	1.81	(0.06)	2y-EDAU09
EDAZ09	2.117	1.81	(0.31)	2y-EDAZ09
EDAH10	2.366	1.81	(0.56)	2y-EDAH10
EDAM10	2.616	1.81	(0.81)	2y-EDAM10
EDAU10	2.865	1.81	(1.06)	2y-EDAU10

The farther away from 0 the spread duration is the riskier the trade.

TERM TED: 5y vs Eurodollar Contracts

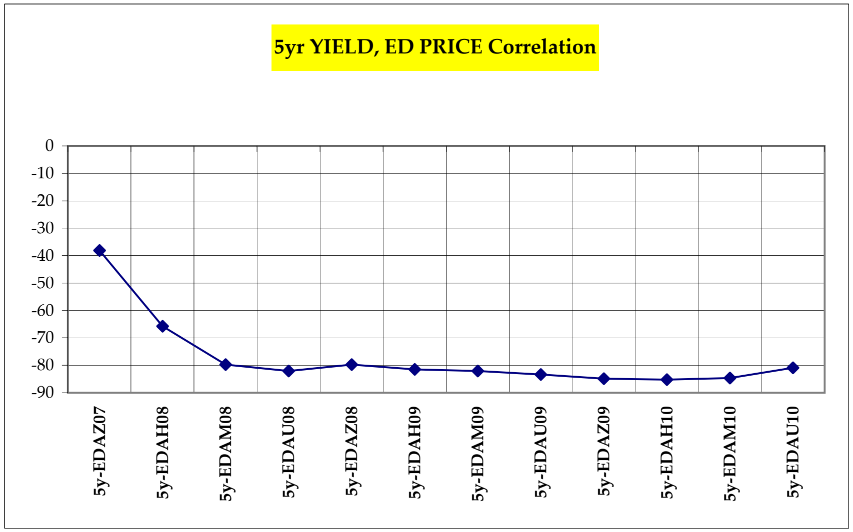
	5y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.16	0.74	5y-EDAZ07	-38.157
EDAH08	3.81	0.39	5y-EDAH08	-65.727
EDAM08	3.65	0.23	5y-EDAM08	-79.724
EDAU08	3.56	0.14	5y-EDAU08	-82.053
EDAZ08	3.56	0.14	5y-EDAZ08	-79.724
EDAH09	3.62	0.20	5y-EDAH09	-81.547
EDAM09	3.72	0.30	5y-EDAM09	-82.068
EDAU09	3.82	0.40	5y-EDAU09	-83.404
EDAZ09	3.91	0.49	5y-EDAZ09	-84.882
EDAH10	3.99	0.57	5y-EDAH10	-85.242
EDAM10	4.08	0.66	5y-EDAM10	-84.686
EDAU10	4.18	0.76	5y-EDAU10	-80.900

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**
These are measuring YIELD correlations.



	GE Duration as Fraction of year	5Y Duration	Spread Duration	
EDAZ07	0.123	4.49	4.37	5y-EDAZ07
EDAH08	0.372	4.49	4.12	5y-EDAH08
EDAM08	0.621	4.49	3.87	5y-EDAM08
EDAU08	0.871	4.49	3.62	5y-EDAU08
EDAZ08	1.120	4.49	3.37	5y-EDAZ08
EDAH09	1.369	4.49	3.12	5y-EDAH09
EDAM09	1.619	4.49	2.87	5y-EDAM09
EDAU09	1.868	4.49	2.62	5y-EDAU09
EDAZ09	2.117	4.49	2.37	5y-EDAZ09
EDAH10	2.366	4.49	2.12	5y-EDAH10
EDAM10	2.616	4.49	1.87	5y-EDAM10
EDAU10	2.865	4.49	1.62	5y-EDAU10

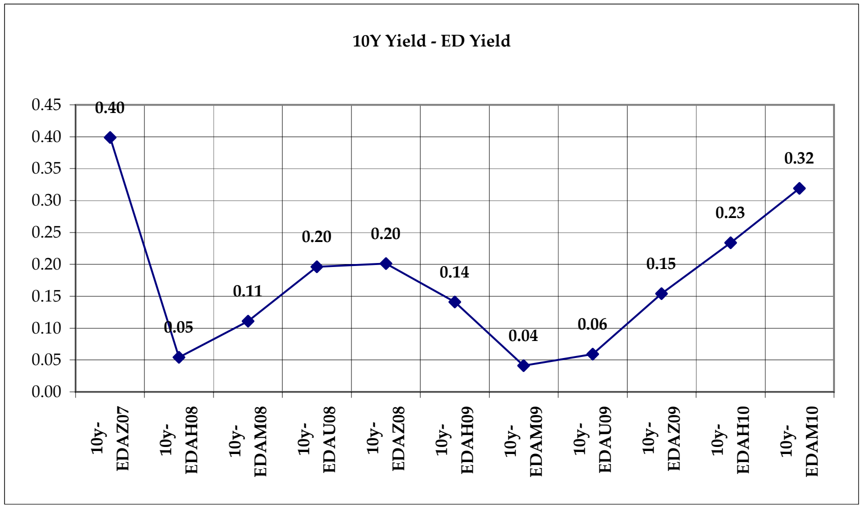
The farther away from 0 the spread duration is the riskier the trade.



TERM TED: 10y vs Eurodollar Contracts

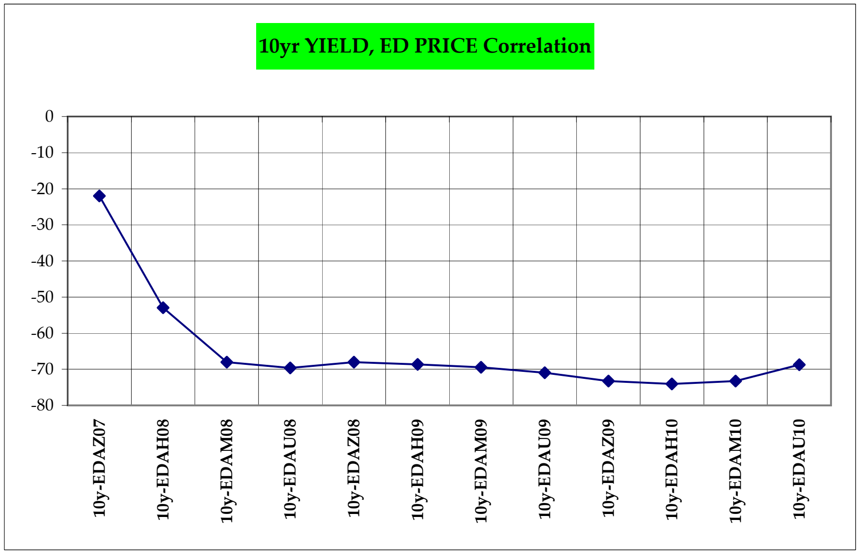
	10y			
	Spread Price	Spread Yield	Spread Name	Correlation* (percent)
EDAZ07	4.16	0.40	10y-EDAZ07	-21.973
EDAH08	3.81	0.05	10y-EDAH08	-52.983
EDAM08	3.65	0.11	10y-EDAM08	-68.015
EDAU08	3.56	0.20	10y-EDAU08	-69.598
EDAZ08	3.56	0.20	10y-EDAZ08	-68.015
EDAH09	3.62	0.14	10y-EDAH09	-68.671
EDAM09	3.72	0.04	10y-EDAM09	-69.459
EDAU09	3.82	0.06	10y-EDAU09	-70.995
EDAZ09	3.91	0.15	10y-EDAZ09	-73.295
EDAH10	3.99	0.23	10y-EDAH10	-74.045
EDAM10	4.08	0.32	10y-EDAM10	-73.290
EDAU10	4.18	0.42	10y-EDAU10	-68.755

Price = Outright Decimal Price - Euro Contract Price
Yield = ABS(Proxy Yield - Implied Euro Contract yield)
***Correlation = ED Correlation to Treasury Future over 10 days**
These are measuring YIELD correlations.



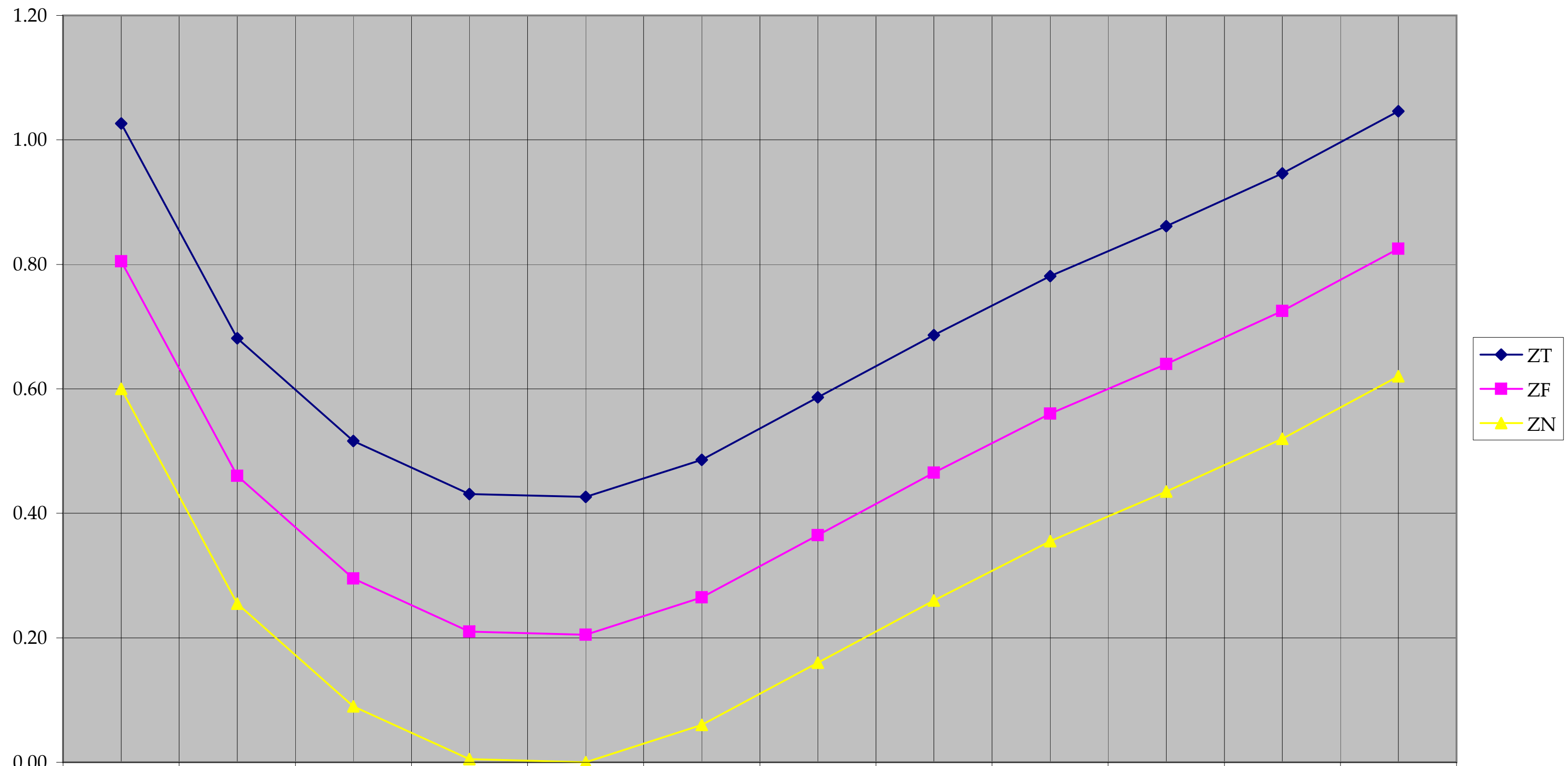
	GE Duration as Fraction of year	10Y Duration	Spread Duration	
EDAZ07	0.123	7.72	7.60	10y-EDAZ07
EDAH08	0.372	7.72	7.35	10y-EDAH08
EDAM08	0.621	7.72	7.10	10y-EDAM08
EDAU08	0.871	7.72	6.85	10y-EDAU08
EDAZ08	1.120	7.72	6.60	10y-EDAZ08
EDAH09	1.369	7.72	6.35	10y-EDAH09
EDAM09	1.619	7.72	6.10	10y-EDAM09
EDAU09	1.868	7.72	5.85	10y-EDAU09
EDAZ09	2.117	7.72	5.60	10y-EDAZ09
EDAH10	2.366	7.72	5.35	10y-EDAH10
EDAM10	2.616	7.72	5.10	10y-EDAM10
EDAU10	2.865	7.72	4.86	10y-EDAU10

The farther away from 0 the spread duration is the riskier the trade.



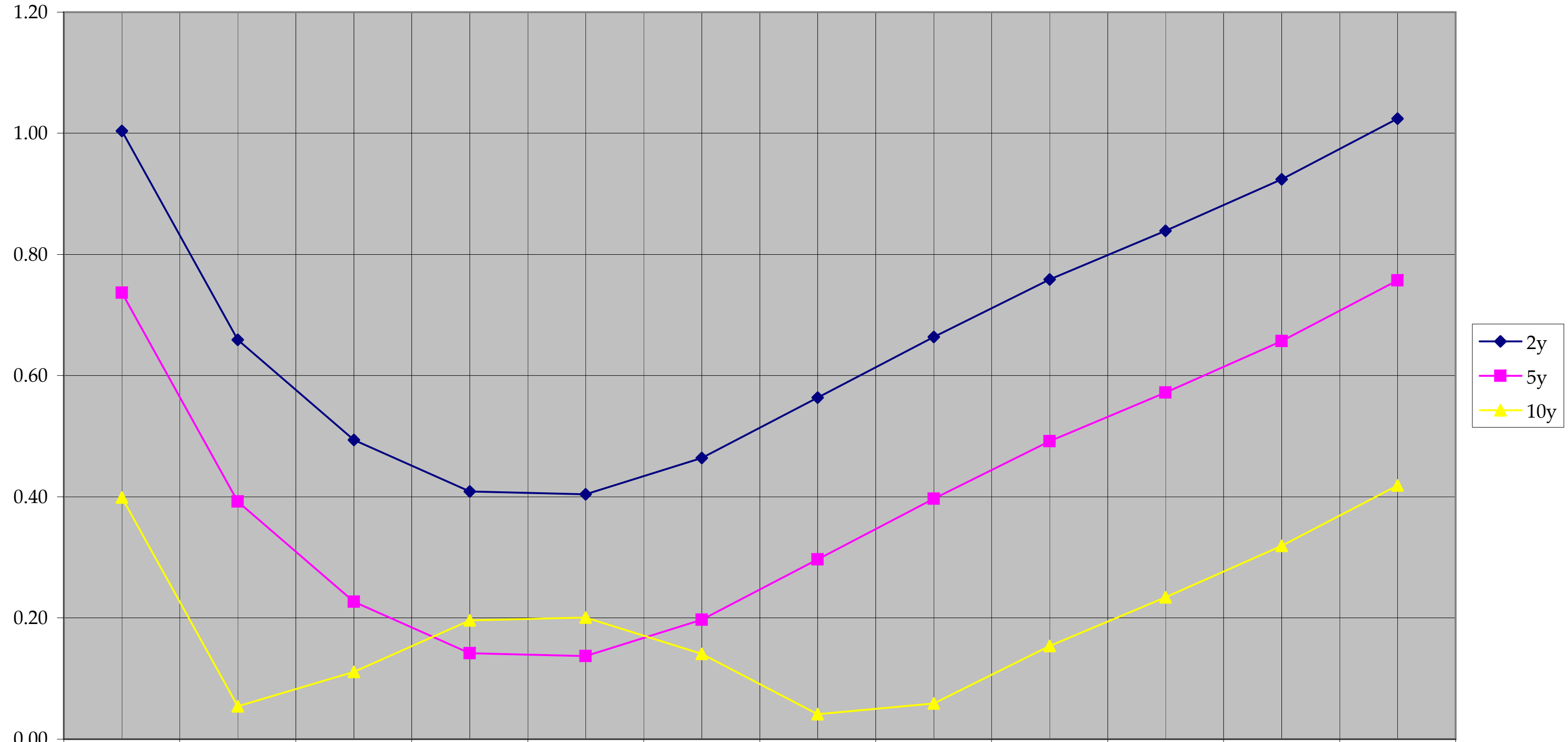
Dirty TED Curve

Chart values show the differences between ED contract and Treasury Futures conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



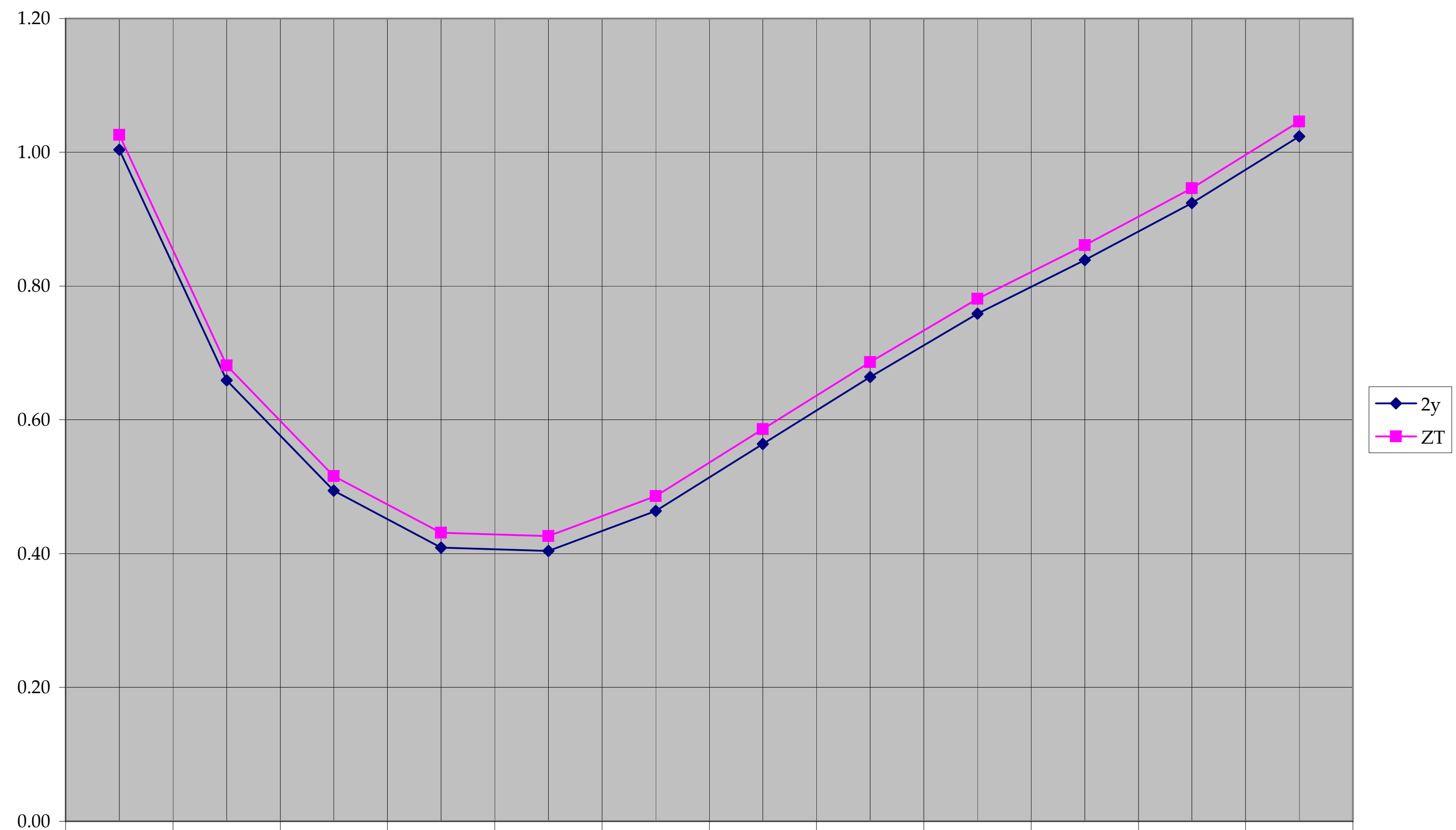
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
ZT	1.03	0.68	0.52	0.43	0.43	0.49	0.59	0.69	0.78	0.86	0.95	1.05
ZF	0.81	0.46	0.30	0.21	0.21	0.27	0.37	0.47	0.56	0.64	0.73	0.83
ZN	0.60	0.26	0.09	0.01	0.00	0.06	0.16	0.26	0.36	0.44	0.52	0.62

Chart values show the differences between ED contract and Treasury Cash conctract. Those values can be seen in the table at the bottom of the chart.
Each cash treasury is then plotted on the chart to compare differences in the durations and basis point values.



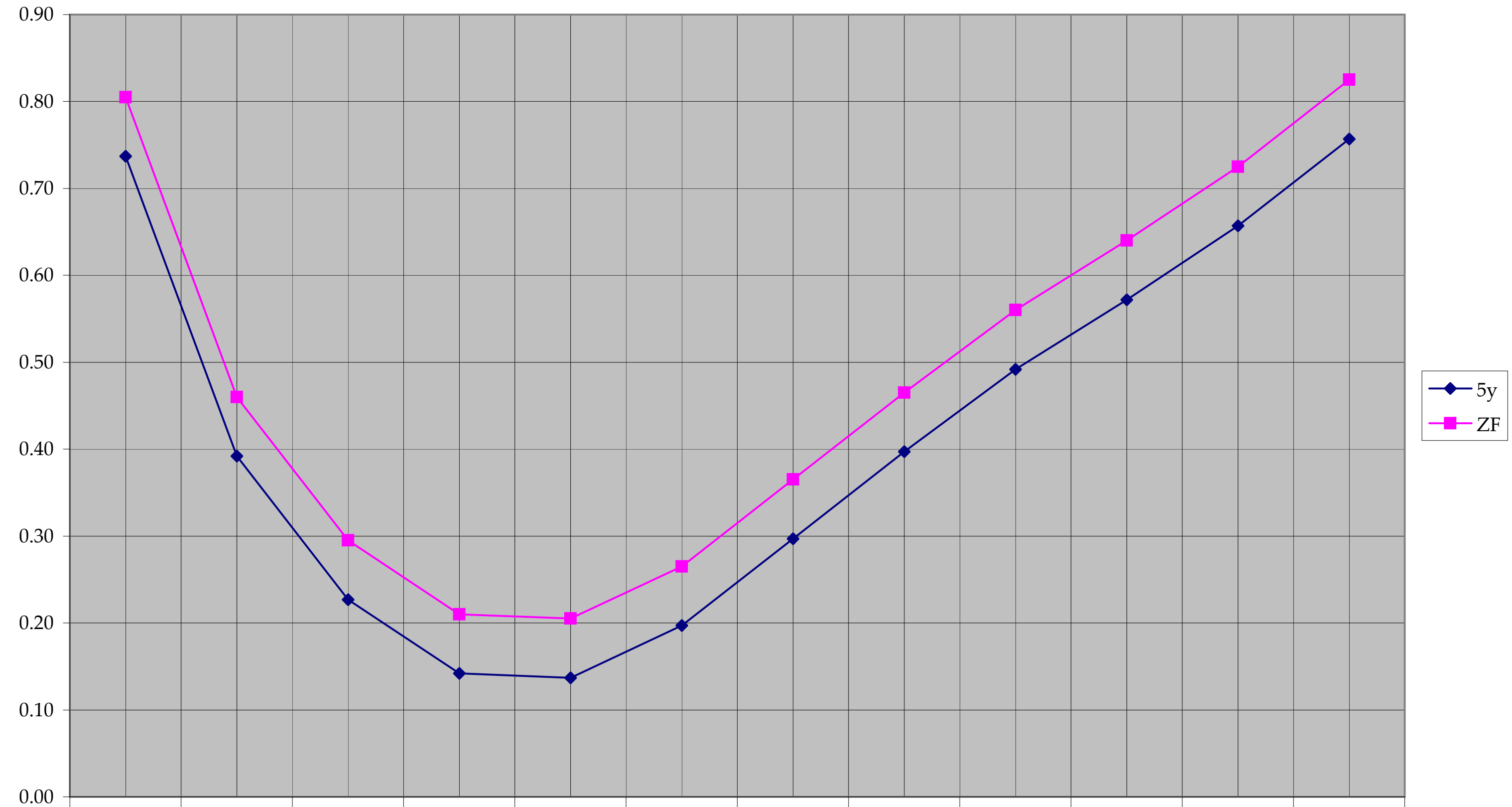
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	1.00	0.66	0.49	0.41	0.40	0.46	0.56	0.66	0.76	0.84	0.92	1.02
5y	0.74	0.39	0.23	0.14	0.14	0.20	0.30	0.40	0.49	0.57	0.66	0.76
10y	0.40	0.05	0.11	0.20	0.20	0.14	0.04	0.06	0.15	0.23	0.32	0.42

2y Basis TED Curve



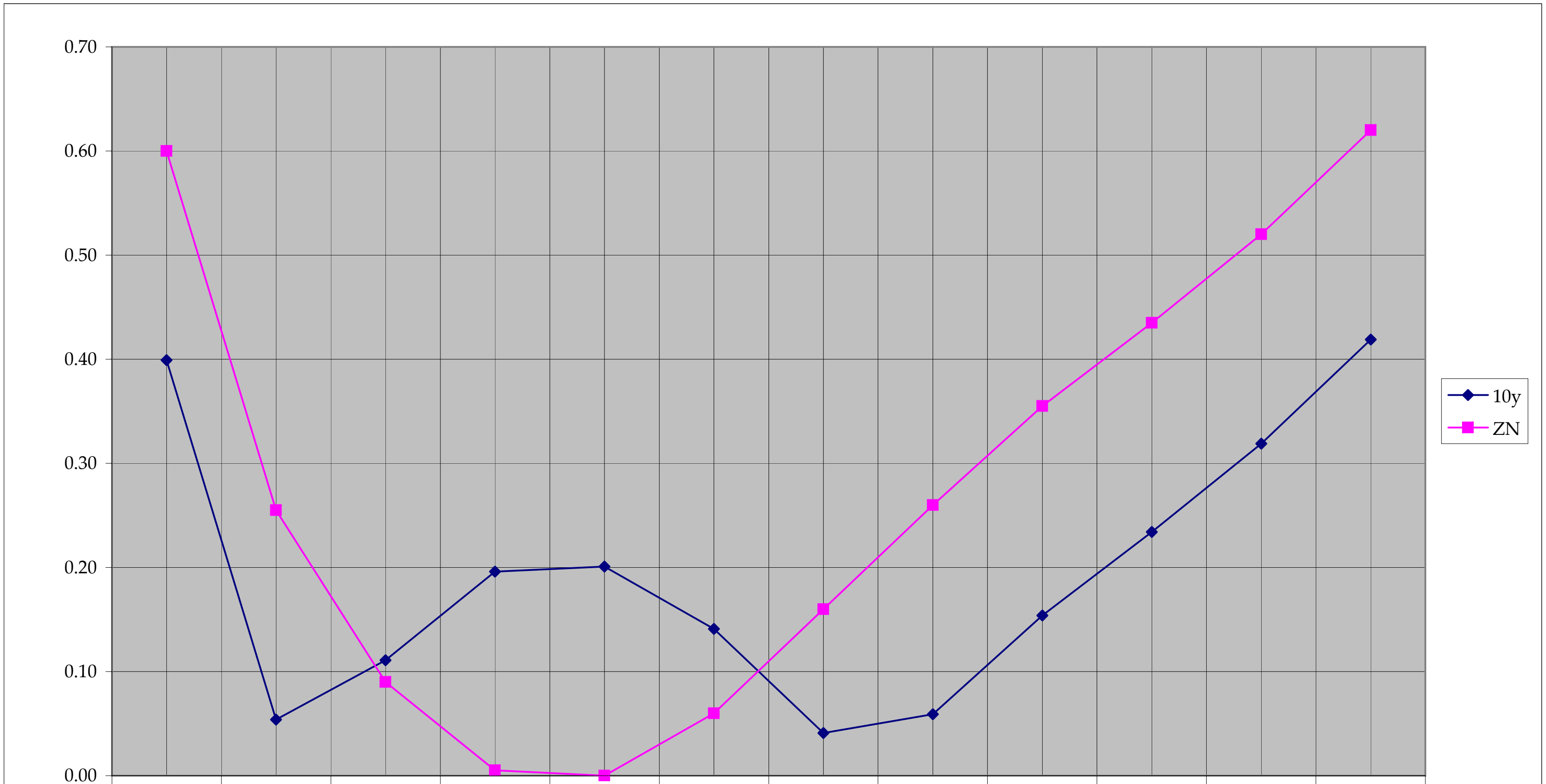
	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
2y	1.00	0.66	0.49	0.41	0.40	0.46	0.56	0.66	0.76	0.84	0.92	1.02
ZT	1.03	0.68	0.52	0.43	0.43	0.49	0.59	0.69	0.78	0.86	0.95	1.05

5y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
5y	0.74	0.39	0.23	0.14	0.14	0.20	0.30	0.40	0.49	0.57	0.66	0.76
ZF	0.81	0.46	0.30	0.21	0.21	0.27	0.37	0.47	0.56	0.64	0.73	0.83

10y Basis TED Curve



	EDAZ07	EDAH08	EDAM08	EDAU08	EDAZ08	EDAH09	EDAM09	EDAU09	EDAZ09	EDAH10	EDAM10	EDAU10
10y	0.40	0.05	0.11	0.20	0.20	0.14	0.04	0.06	0.15	0.23	0.32	0.42
ZN	0.60	0.26	0.09	0.01	0.00	0.06	0.16	0.26	0.36	0.44	0.52	0.62

Packs

	last Yield	Net Last Yield	Last Price
Q.ED.White	4.493	1.875	9561.750
Q.ED.Red	4.371	2.125	9573.500
Q.ED.Green	4.747	1.250	9537.250
Q.ED.Blue		0.000	9508.875
Q.ED.Gold	5.265	0.000	9487.375